Amendment of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (original) A method of detecting ATP in a sample comprising:

(a) adding to the sample a reagent composition comprising one or more detergents and a luciferase,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(b) detecting luminescence.

2. (original) The method of claim 1, wherein at least one detergent in the reagent composition is a cationic detergent.

3. (original) The method of claim 1, wherein at least one detergent in the reagent composition is an anionic detergent.

4. (original) The method of claim 1, wherein at least one detergent in the reagent composition is a zwitterionic detergent.

5. (original) The method of claim 1, wherein the reagent composition further comprises luciferin.

6. (original) The method of claim 1, wherein the reagent composition further comprises a cell lysing agent.

7. (original) The method of claim 1, wherein the reagent composition further comprises an ATP extracting agent.

8. (original) The method of claim 1, wherein the reagent composition further comprises an enzyme stabilizing agent.

9. (original) The method of claim 1, wherein the reagent composition is capable of maintaining at least about 60% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 40% relative to the sample's ATPase activity in the absence of the one or more detergents.

10. (original) The method of claim 1, wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least two hours compared to the reagent composition's activity just after the luciferase is combined with the detergent, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 40% relative to the sample's ATPase activity in the absence of the one or more detergents.

11. (original) The method of claim 10, wherein the reagent composition is capable of maintaining at least about 60% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least two hours compared to the reagent composition's activity just after the luciferase is combined with the

detergent, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 40% relative to the sample's ATPase activity in the absence of the one or more detergents.

12. (original) The method of claim 1, wherein the reagent composition is capable of maintaining at least about 60% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 60% relative to the sample's ATPase activity in the absence of the one or more detergents.

13. (original) The method of claim 2, wherein a cationic detergent is present in the reagent composition at a concentration of at least 0.1% (w/v).

14. (original) The method of claim 2, wherein the cationic detergent is selected from the group consisting of dodecyltrimethylammonium bromide and benzyldimethyldodecylammonium bromide.

15. (original) The method of claim 1, wherein the luciferase comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 1, 2, 3, and 4.

16. (original) The method of claim 1, wherein the luciferase produces a luminescence that has less than 50% loss of luminescence per hour.

17. (original) The method of claim 1, wherein the reagent composition comprises at least one cationic detergent and the luciferase is prepared by reconstituting lyophilized luciferase in a solution comprising the cationic detergent.

18. (original) The method of claim 1, wherein the reagent composition further comprises NaF.

19. (original) The method of claim 1, wherein the reagent composition comprises at least 0.1% of benzyldimethyldodecylammonium bromide and maintains at least 50% reagent composition activity.

20. (original) A method of detecting ATP in a sample comprising:

(a) adding to the sample a reagent composition comprising one or more detergents and a luciferase,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(b) quantifying luminescence.

21. (original) The method of claim 20, further comprising the step of comparing the quantified luminescence with a separate quantification determined by quantifying the luminescence produced by a sample comprising a known concentration of ATP.

22. (original) The method of claim 20, further comprising the step of adding a known concentration of ATP to the sample.

23. (original) The method of claim 20, wherein at least one detergent in the reagent composition is a cationic detergent.

24. (original) The method of claim 20, wherein at least one detergent in the reagent composition is an anionic detergent.

25. (currently amended) The method of claim 20, wherein at least ~~ne~~ one detergent in the reagent composition is a zwitterionic detergent.

26. (original) The method of claim 20, wherein the regent composition further comprises luciferin.

27. (original) The method of claim 20, wherein the reagent composition further comprises a cell lysing agent.

28. (original) The method of claim 20, wherein the reagent composition further comprises an ATP extracting agent.

29. (original) The method of claim 20, wherein the luciferase produces a luminescence that has less than 50% loss of luminescence per hour.

30. (original) The method of claim 20, wherein the reagent composition further comprises NaF.

31. (original) The method of claim 20, wherein the reagent composition further comprises an enzyme stabilizing agent.

32. (original) A method of measuring cell viability within a population of cells comprising:

(a) contacting the population of cells with a reagent composition comprising one or more detergents and a luciferase,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the population of cells, for at least one hour compared to the reagent composition's

activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the population of cells by at least about 25% relative to the population of cells' ATPase activity in the absence of the one or more detergents; and

(b) detecting luminescence, wherein the amount of luminescence detected is proportional to the viability of the cells within the population.

33. (original) The method of claim 32, wherein the viability of the cells approximately indicates a number of viable cells within the population of cells.

34. (original) The method of claim 32, wherein at least one detergent in the reagent is cationic detergent.

35. (original) The method of claim 32, wherein at least one detergent in the reagent is an anionic detergent.

36. (original) The method of claim 32, wherein at least one detergent in the reagent is a zwitterionic detergent.

37. (original) The method of claim 32, wherein the regent composition further comprises luciferin.

38. (original) The method of claim 32, wherein the reagent composition further comprises a cell lysing agent.

39. (original) The method of claim 32, wherein the reagent composition further comprises an ATP extracting agent.

40. (original) The method of claim 32, wherein the luciferase produces a luminescence that has less than 50% loss of luminescence per hour.

41. (original) The method of claim 32, wherein the reagent composition further comprises an enzyme stabilizing agent.

42. (original) The method of claim 32, wherein the reagent composition further comprises NaF.

43. (original) A method of determining the effect of a compound on a first population of cells comprising:

(a) contacting the first population of cells with a concentration of the compound;

(b) subsequently contacting the first population of cells with a reagent composition comprising one or more detergents and a luciferase,

wherein the composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(c) detecting an amount of luminescence; and

(d) comparing the amount of luminescence in the first population to an amount of luminescence in a second population of cells.

44. (original) The method of claim 43, wherein, prior to detecting the amount of luminescence in the second population of cells, the second population of cells was contacted with a concentration of the compound that differs from the concentration contacting the first population of cells.

45. (original) The method of claim 43, wherein the concentration of the compound contacting the second population is less than the concentration of the compound contacting the first population.

46. (original) The method of claim 43, wherein the cytotoxic effect of the compound is determined.

47. (original) The method of claim 43, wherein the cell proliferation effect of the compound is determined.

48. (original) The method of claim 43, wherein at least one detergent in the reagent composition is a cationic detergent.

49. (original) The method of claim 43, wherein at least one detergent in the reagent composition is an anionic detergent.

50. (original) The method of claim 43, wherein at least one detergent in the reagent composition is a zwitterionic detergent.

51. (original) The method of claim 43, wherein the regent composition further comprises luciferin.

52. (original) The method of claim 43, wherein the reagent composition further comprises a cell lysing agent.

53. (original) The method of claim 43, wherein the reagent composition further comprises an ATP extracting agent.

54. (original) The method of claim 43, wherein the luciferase produces a luminescence that has less than 50% loss of luminescence per hour.

55. (original) The method of claim 43, wherein steps (a) through (d) are repeated for one or more compounds in a library of small molecules.

56. (original) The method of claim 43, wherein the product of the ATP-dependent enzyme reaction is light.

57. (original) The method of claim 43, wherein the ATP-dependent enzyme is a luciferase.

58. (original) The method of claim 43, wherein the reagent composition further comprises an enzyme stabilizing agent.

59. (original) The method of claim 43, wherein the reagent composition further comprises NaF.

60. (new) A method of detecting ATP in a sample comprising:

(a) adding to the sample a reagent composition comprising one or more detergents and a luciferase, wherein the luciferase comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 1, 2, 3, and 4,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(b) detecting luminescence.

61. (new) A method of detecting ATP in a sample comprising:

(a) adding to the sample a reagent composition comprising one or more detergents and a luciferase, wherein the reagent composition further comprises NaF,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(b) detecting luminescence.

62. (new) A method of detecting ATP in a sample comprising:

(a) adding to the sample a reagent composition comprising one or more detergents and a luciferase, wherein the reagent composition further comprises NaF,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(b) quantifying luminescence.

63. (new) A method of measuring cell viability within a population of cells comprising:

(a) contacting the population of cells with a reagent composition comprising one or more detergents and a luciferase, wherein the reagent composition further comprises NaF,

wherein the reagent composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the population of cells, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively

able to reduce ATPase activity endogenous to the population of cells by at least about 25% relative to the population of cells' ATPase activity in the absence of the one or more detergents; and

(b) detecting luminescence, wherein the amount of luminescence detected is proportional to the viability of the cells within the population.

64. (new) A method of determining the effect of a compound on a first population of cells comprising:

(a) contacting the first population of cells with a concentration of the compound;

(b) subsequently contacting the first population of cells with a reagent composition comprising one or more detergents and a luciferase, wherein the reagent composition further comprises NaF,

wherein the composition is capable of maintaining at least about 30% activity, as measured by luminescence after the reagent composition is combined with the sample, for at least one hour compared to the reagent composition's activity just after the luciferase is combined with the one or more detergents, and wherein the one or more detergents present in the reagent composition are collectively able to reduce ATPase activity endogenous to the sample by at least about 25% relative to the sample's ATPase activity in the absence of the one or more detergents; and

(c) detecting an amount of luminescence; and

(d) comparing the amount of luminescence in the first population to an amount of luminescence in a second population of cells.